IN THE CLAIMS

Please amend the claims as follows:

Claim 1 (Currently Amended): A method for detecting an object [[(1)]]in a zone [[(2)]]situated in the proximity of an interface [[(3)]]between two liquid and/or gaseous media~~, especially an interface of the water/air type~~; the said object [[(1)]]being illuminated by electromagnetic radiation [[(4)]]comprising at least two different wavelengths~~, especially situated in regions corresponding to the near infrared on the one hand and to blue-green on the other hand~~; the said media having different absorption coefficients as a function of the wavelengths of the electromagnetic radiation[[(4)]]; the said method comprising ~~the following stages~~:

[[- (a)]]~~the stage of~~ choosing, from among the wavelengths of the electromagnetic radiation[[(4)]], at least two wavelengths or two wavelength regions,

[[- (b)]]~~the stage of~~ creating, for each of the said wavelengths or wavelength regions, an image [[(5)]]of the said interface [[(3)]]and of the said zone[[(2)]],

[[- (c)]]~~the stage of~~ producing electrical signals [[(6)]]representative of each image[[(5)]],

[[- (d)]]~~the stage of~~ digitizing the electrical signals ~~(6) in such a way as~~ to produce data [[(7)]]corresponding to each image[[(5)]],

[[- (e)]]~~the stage of~~ extracting, from the said data [[(7)]]corresponding to each image[[(5)]], two groups of data[[(7)]], wherein the groups are representative of at least part of the said object [[(1)]]in the near infrared region and in the blue-green region respectively, and

[[- (f)]]~~the stage of~~ comparing the said groups of data[[(7);]],

the producing, the digitizing, the extracting, and the comparing ~~stages (c) to (f)~~ being referred to hereinafter as the process of deducing the presence of an object[[(1) ;]],

~~such that it is possible thereby to detect~~ whereby detecting the presence of an object [[(1)]]and/or ~~to determine~~ determining the position of the detected object [[(1)]]relative to the said interface[[(3)]], while discriminating between an object [[(1)]]situated entirely under the interface [[(3)]]and an object [[(1)]]situated at least partly above the interface[[(3)]].

Claim 2 (Currently Amended): [[A]] The method according to claim 1~~; the said method~~ additionally comprising:

[[-]]~~the stage of~~ integrating over time the results of the stage of comparison of the said groups of data[[(7)]].

Claim 3 (Currently Amended): [[A]] The method according to claim 2~~; the said method~~ additionally comprising:

[[-]]~~the stage of~~ tripping an alarm [[(8)]]if an object [[(1)]]of human size is detected under the said interface [[(3)]]for a time longer than a specified threshold.

Claim 4 (Currently Amended): [[A]] The method according to ~~any one of claims 1 to 3~~ claim 1,[[;]] ~~the said method being such that~~ wherein calottes ~~(9) (within the meaning of the present invention)~~ are generated in order to extract, from the said data [[(7)]]corresponding to each image[[(5)]], two groups of data[[(7)]], and wherein the groups are representative of at least part of the said object [[(1)]]in the near infrared region and in the blue-green region respectively.

Claim 5 (Currently Amended): [[A]] The method according to claim 4[[;]], ~~the said method~~ additionally comprising ~~the following stages~~:

[[-]]~~the stage of~~ associating characteristics ~~(10) (within the meaning of the present invention)~~ with each calotte[[(9)]], and

[[-]]~~the stage of~~ deducing the presence of a group of data[[(7)]], wherein the group is representative of at least part of the said object [[(1)]]if the characteristics [[(10)]]exceed a predetermined threshold[[SC]].

Claim 6 (Currently Amended): [[A]] The method according to ~~any one of claims 1 to 5~~ claim 1,~~; the said method being such that~~ wherein, in order to compare the said groups of data[[(7)]], a search is performed for data [[(7)]]representative of at least part of the said object [[(1)]]in the blue-green region, for which data, within a specified geometric vicinity[[(11)]], there are no corresponding data [[(7)]]representative of at least part of the said object [[(1)]]in the near infrared region[[;]],

~~such that it can be concluded~~ whereby concluding from a positive search that the said object [[(1)]]is situated under the interface[[(3)]].

Claim 7 (Currently Amended): [[A]] The method according to ~~any one of claims 1 to 5~~ claim 1,~~; the said method being such that~~ wherein, in order to compare the said groups of data[[(7)]], a search is performed for data [[(7)]]representative of at least part of the said object [[(1)]]in the blue-green region, for which data, within a specified geometric vicinity[[(11)]], there are corresponding data [[(7)]]representative of at least part of the said object [[(1)]]in the near infrared region[[;]],

~~such that it can be concluded~~ whereby concluding from a positive search that the said object [[(1)]]is situated at least partly above the interface[[(3)]].

Claim 8 (Currently Amended): [[A]] The method according to claim 2, ~~in combination with any one of claims 1 to 7;~~ more particularly intended to discriminate between a stationary object [[(1)]]and a moving object[[(1)]]; to integrate over time the results of the stage of comparison of the said groups of data[[(7)]], the said method additionally comprising ~~the following stages~~:

[[-]]~~the stage of~~ iterating, at specified time intervals, the said process of deducing the presence of the said object[[(1)]];

[[-]]~~the stage of~~ calculating the number of times that the said object [[(1)]]is detected during a specified time period[[T1]]; and

[[-]]~~the stage of~~ discriminating, at one point of the said zone[[(2)]], between the said objects [[(1)]]that are present a number of times greater than a specified threshold [[S1]](the said objects [[(1)]]being referred to hereinafter as stationary objects[[(1)]]) and the said objects [[(1)]]that are present a number of times smaller than the said specified threshold [[S1]](the said objects [[(1)]]being referred to hereinafter as moving objects [[(1)]])[[;]],

~~such that it is possible thereby to detect~~ whereby detecting the presence of a stationary object [[(1)]]situated entirely under the interface [[(3)]]and thus ~~to trip~~ tripping an alarm[[(8)]].

[[System]]

Claim 9 (Currently Amended): A system for detecting an object [[(1)]]in a zone [[(2)]]situated in the proximity of an interface [[(3)]]between two liquid media [[(12)]]and/or gaseous media[[(13)]], ~~especially an interface of the water/air type~~; the said object [[(1)]]being illuminated by electromagnetic radiation [[(4)]]comprising at least two different wavelengths~~, especially situated in regions corresponding to the near infrared on the one hand and to blue-green on the other hand~~; the said media having different absorption coefficients

as a function of the wavelengths of the electromagnetic radiation[[(4)]]; the said system comprising:

[[- (a)]]selecting means [[(14)]]for choosing, from among the wavelengths of the electromagnetic radiation[[(4)]], at least two wavelengths or two wavelength regions,

[[- (b)]]filming means [[(15)]]for creating, for each of the said wavelengths or wavelength regions, an image [[(5)]]of the said interface [[(3)]]and of the said zone[[(2)]],

[[- (c)]]converting means [[(16)]]for producing electrical signals [[(6)]]representative of each image[[(5)]],

[[- (d)]]digitizing means [[(17)]]for digitizing the electrical signals [[(6)]]in such a way as to produce data [[(7)]]corresponding to each image[[(5)]],

[[- (e)]]information-processing means [[(18)]]for extracting, from the said data [[(7)]]corresponding to each image[[(5)]], two groups of data[[(7)]], wherein the groups are representative of at least part of the said object [[(1)]]in the near infrared region and in the blue-green region respectively, and

[[- (f)]]calculating means [[(19)]]for comparing the said groups of data[[(7)]];

the converting means[[(16)]], the digitizing means[[(17)]], the information-processing means [[(18)]]and the calculating means [[(19)]]being referred to hereinafter as the means for deducing the presence of an object[[(1);]],

~~such that it is possible thereby to detect~~ whereby detecting the presence of an object [[(1)]]and/or ~~to determine~~ determining the position of the detected object [[(1)]]relative to the said interface[[(3)]], while discriminating between an object [[(1)]]situated under the interface [[(3)]]and an object [[(1)]]situated at least partly above the interface[[(3)]].

Claim 10 (Currently Amended): [[A]] The system according to claim 9[[;]], ~~the said system~~ additionally comprising:

[[-]]integrating means [[(20)]]for integrating over time the results of the means [[(19)]]for calculating the said groups of data[[(7)]].

Claim 11 (Currently Amended): [[A]] The system according to claim 10[[;]], ~~the said system~~ additionally comprising:

[[-]]activating means [[(21)]]for activating an alarm [[(8)]]if an object [[(1)]]of human size is detected under the said interface [[(3)]]for a time longer than a specified threshold.

Claim 12 (Currently Amended): [[A]] The system according to ~~any one of claims 9 to 11~~ claim 11,~~; the said system being such that~~ wherein the said information-processing means [[(18)]]make it possible to generate calottes ~~(9) (within the meaning of the present invention)~~.

Claim 13 (Currently Amended): [[A]] The system according to claim 12,~~; the said system being such that~~ wherein the said information-processing means [[(18)]]make it possible:

[[-]]to associate characteristics ~~(10) (within the meaning of the present invention)~~ with each calotte[[(9)]], and

[[-]]to deduce the presence of a group of data[[(7)]], wherein the group is representative of at least part of the said object[[(1)]], if the characteristics [[(10)]]exceed a predetermined threshold[[SC]].

Claim 14 (Currently Amended): [[A]] The system according to ~~any one of claims 9 to 13~~ claim 11,[[;]] ~~the said system being such that~~ wherein the said calculating means [[(19)

]]make it possible to search for data [[(7)]]representative of at least part of the said object [[(1)]]in the blue-green region, for which data, within a specified geometric vicinity[[(11)]], there are no corresponding data [[(7)]]representative of at least part of the said object [[(1)]]in the near infrared region;

~~such that it can be concluded~~ whereby concluding from a positive search that the said object [[(1)]]is situated under the interface[[(3)]].

Claim 15 (Currently Amended): [[A]] The system according to ~~any one of claims 9 to 13~~ claim 9,[[;]] ~~the said system being such that~~ wherein the said calculating means [[(19)]]make it possible to search for data [[(7)]]representative of at least part of the said object [[(1)]]in the blue-green region, for which data, within a specified geometric vicinity[[(11)]], there are corresponding data [[(7)]]representative of at least part of the said object [[(1)]]in the near infrared region;

~~such that it can be concluded~~ whereby concluding from a positive search that the said object [[(1)]]is situated at least partly above the interface[[(3)]].

Claim 16 (Currently Amended): [[A]] The system according to claim 10, ~~in combination with any one of claims 9 to 15;~~ more particularly intended to discriminate between a stationary object [[(1)]]and a moving object[[(1)]]; the said integrating means [[(20)]]for integrating over time the results of the calculating means [[(19)]]making it possible:

[[-]]to iterate, at specified time intervals, the use of the said means for deducing the presence of the said object[[(1)]];

[[-]]to calculate the number of times that the said object [[(1)]]is detected during a specified time period[[T1]]; and

[[-]]to discriminate, at one point of the said zone[[(2)]], between the said objects [[(1)]]that are present a number of times greater than a specified threshold[[S1]] (the said objects [[(1)]]being referred to hereinafter as stationary objects[[(1)]]) and the said objects [[(1)]]that are present a number of times smaller than the said specified threshold[[S1]] (the said objects [[(1)]]being referred to hereinafter as moving objects[[(1)]]);

~~such that it is possible thereby to detect~~ whereby concluding the presence of a stationary object [[(1)]]situated entirely under the interface[[(3)]];

~~such that it is possible thereby to trip~~ whereby tripping an alarm[[(8)]].

Claim 17 (New): The method according to claim 1, wherein the interface is an interface of the water/air type.

Claim 18 (New): The method according to claim 1, wherein the two different wavelengths are situated in regions corresponding to near infrared or blue-green.

Claim 19 (New): The system according to claim 9, wherein the interface is an interface of the water/air type.

Claim 20 (New): The system according to claim 9, wherein the two different wavelengths are situated in regions corresponding to near infrared or blue-green.